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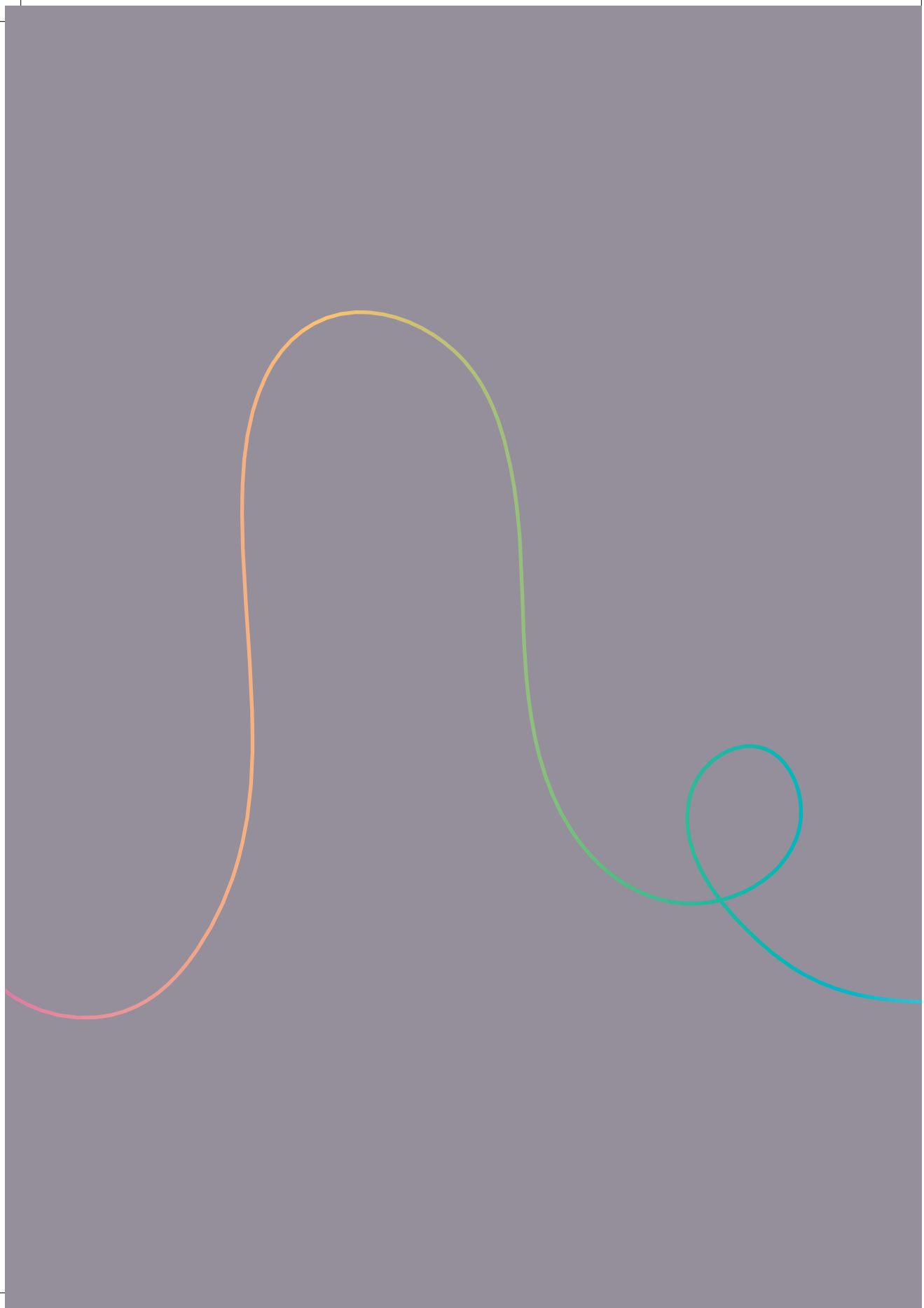

CHAPTER 8

Psychological Functioning in Non-binary Identifying Adolescents and Adults

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ABSTRACT

Background. To date, research examining psychological functioning of individuals who identify across the full gender spectrum has been scarce. This study aimed to investigate psychological functioning among gender diverse individuals including those who identify outside the binary gender spectrum.

Methods. The relationship between psychological functioning and non-binary identity was assessed in two study populations. The first study included 589 gender diverse adolescents aged between 12-18 years old (mean age=15.7, SD=1.4) who visited the Gender Identity Development Service (GIDS) in the UK. The second study recruited 632 gender diverse adults, aged between 18-67 years old, and referred to the Center of Expertise on Gender Dypshoria in Amsterdam. In both studies, non-binary identity was measured using a continuous instrument, with higher scores indicating a stronger non-binary identity. Multiple regression analysis was performed to investigate whether any predictors could be identified in relation to experiencing psychological problems.

Results. In both age groups, we found that a higher degree of psychological problems was predicted by identifying more strongly with a non-binary identity. For adolescents, having a non-binary gender identity was associated with having more psychological problems, especially for those assigned female at birth. For the adult population, experiencing psychological difficulties was also significantly related to having a stronger non-binary identity and having a younger age.

Clinical Implications. Clinicians working with gender diverse people should be aware that applicants for physical intervention might have a broader range of gender identities than a binary transgender one, and that people with a non-binary gender identity may, for various reasons, be particularly vulnerable to psychological difficulties.

Conclusion. Considering the expansion of ways in which gender diverse individuals are identifying, clinicians should be aware of the heterogeneity of the group who present at gender identity services in terms of their gender identity and their psychological functioning, with particular attention to those individuals who identify as non-binary.

INTRODUCTION

Respondents of an online survey amongst 3500 American college students used more than a hundred different ways to describe their gender identity (Rankin & Beemyn, 2012). A growing number of community surveys and population studies, just like this example, illustrate that increasingly more individuals are openly challenging the traditional binary gender categories (male and female). In line with this trend, specialist gender identity services are emerging across the world and existing gender identity services are often faced with a rising demand of gender diverse service users. The field of transgender healthcare continues to expand, leading to increased awareness of gender diversity in the general population as well as in clinical contexts (de Graaf & Carmichael, 2019; Richards et al., 2016).

Gender diversity is an umbrella term that is used to describe gender identities that differ from the cultural norms prescribed for people of a particular birth-assigned gender. Subsequently, in this manuscript, the term *gender diverse individual* is used to describe individuals who feel that their gender identity is not in line with their birth-assigned gender. This includes treatment-seeking as well as non-treatment-seeking transgender people who identify across the gender spectrum. Those identifying between, outside and beyond the gender binary are referred to as *non-binary* (Richards, Bouman, & Barker, 2017). We acknowledge that language regarding gender identities continues to evolve and that non-binary individuals go by a variety of labels with some creating and adopting titles unique to themselves. These labels often represent a variety of approaches to gender, inclusive of, but not limited to, *agender* (an absence of gender), *bigender* (a blending of male and female), *genderqueer* (a gender that is neither, both, or a combination of male and female genders) and *ambigender* (a gender that alternates between gender positions) (Barker & Richards, 2015; Fiani & Han, 2018).

While some gender diverse individuals might not express the need for professional support, others do seek-out help from specialist gender identity services to support them with their gender diverse experiences. It is important to note that not all people who report gender diverse experiences opt for medical interventions (Kuyper & Wijsen, 2014; Van Caenegem et al., 2015). For those who experience severe distress associated with their feelings of gender incongruence, a diagnosis of Gender Dysphoria might be

applicable (American Psychiatric Association, 2013).

Both gender diverse adolescents and adults have reported poorer mental health outcomes compared to the general population (Bockting, Miner, Romine, Hamilton, & Coleman, 2013; Claes et al., 2015; de Graaf, Cohen-Kettenis, et al., 2018; de Vries, Doreleijers, Steensma, & CohenKettenis, 2011; de Vries, Steensma, Cohen-Kettenis, VanderLaan, & Zucker, 2016; Dhejne, Van Vlerken, Heylens, & Arcelus, 2016; Hendricks & Testa, 2012; Heylens et al., 2014; Holt, Skagerberg, & Dunsford, 2016; Mizock & Lewis, 2008; Zucker et al., 2012). To date, most studies on gender diverse individuals were largely based on populations which were characterized by individuals expressing a binary gender identification and a prominent desire for feminizing or masculinizing medical interventions from specialist gender identity services (de Graaf & Carmichael, 2019; Moradi et al., 2016). While these characteristics were fairly common over the past few decades, we now start to see fundamental shifts in the ways in which individuals are presenting and describing themselves (Barker & Richards, 2015; Richards et al., 2016; Twist & de Graaf, 2018).

In line with this development, new research is slowly starting to investigate potential differences in wellbeing and psychological functioning between gender diverse individuals who identify as binary or non-binary. In an online survey in gender diverse youth across Canada, Vaele et al. (2017) recruited a community sample of 923 transgender people up to 25 years old. Non-binary individuals reported poorer mental health outcomes and higher rates of self-harming thoughts and/or behaviours than binary individuals. Similarly, Thorne et al. (2018), reporting on 388 transgender youth (aged 16-25 years) attending an adult gender identity service in the UK, showed that those identifying as non-binary reported poorer mental health (specifically anxiety and depression) and lower self-esteem compared to binary transgender youth (Thorne et al., 2018).

For gender diverse adults, similar outcomes were found in two community sample studies across the US. According to James et al. (2016), reporting on one of the largest community samples in the US (n=27.715), 49% of non-binary respondents reported serious current psychological distress compared to 35% of binary transgender men and woman (James et al., 2016). In another study including 64 non-binary adults, Budge et al. (2014) reported that 53%

of the respondents reported clinical levels of depression and 39% reported clinical levels of anxiety (Budge, Rossman, & Howard, 2014).

However, there are also studies reporting contradicting results. For example, Rimes et al. (2017), who recruited 667 LGBTQ youth (aged 16-25 years) in the UK through youth organizations and social media, found no evidence that non-binary participants had higher rates of mental health problems than binary participants (Rimes, Goodship, Ussher, Baker, & West, 2017). Furthermore, Jones et al. (2019), who recruited adult participants through LGBTQ+ organizations within the UK, showed that non-binary people who were assigned male at birth reported better mental health when compared to binary transgender females. Similarly, non-binary people who were assigned female at birth had better mental health outcomes than binary transgender males. For both studies, choices with regard to recruitment strategy, participation sample, (non-validated) instruments, or the participant's country of origin, may have played a role in the contradicting outcomes compared to the earlier studies.

From the limited evidence that is available, it remains unclear how non-binary identifying adolescents and adults are functioning psychologically, and whether any differences can be found between those assigned male at birth and those assigned female at birth. Research on psychological functioning in clinically referred gender diverse adolescents and adults, acknowledging a non-category based approach, has not yet been performed (Nicholas, 2019). Therefore, this study aimed to analyse non-binary gender identification as a continuum, rather than using gender-categories, in a group of adolescents and adults who present to gender identity servcies. In the first study, psychological functioning and non-binary identity were assessed in gender diverse adolescents, aged 12 to 18 years, attending the Gender Identity Development Service (GIDS) in the UK. The second study investigated psychological functioning and non-binary identity in gender diverse adults from the Center of Expertise on Gender Dysphoria from the Amsterdam UMC in the Netherlands. In both studies, assigned-gender at birth was taken into account when conducting the analyses. Because of the differences in study design and measurements across the two populations, both studies will be described separately. Based on previous findings, it was hypothesized that a higher score on the non-binary gender identity measures was associated with a higher degree of psychological problems.

STUDY 1: PSYCHOLOGICAL FUNCTIONING AND NON-BINARY GENDER IDENTITY IN ADOLESCENTS

METHODS

Participants and Procedure

Information on psychological functioning and the degree of non-binary gender identification was collected in 720 adolescents (age range 12-18 years) who first visited the GIDS between June 2016 and August 2018. Prior to their first appointment, families and young people attending GIDS were informed about the questionnaires which would be gathered as part of their clinical assessment. The questionnaires were administered at baseline, during the first or second assessment. At this stage, none of the participants had started any physical treatment at the gender identity service. As the questionnaires were part of GIDS' routine outcome measures, and the data was coded and used anonymously, the local ethics committee (NOCLOR) advised that ethical approval was not required.

Out of the 720 adolescents, questionnaire data was not available for *n*=131 (18.2%) due to not completing one of the questionnaires at baseline. There were no other exclusion criteria. Therefore, a total of 589 participants were included in this study, of which 438 (74.4%) participants were assigned female at birth and 151 (25.6%) participants were assigned male at birth. The mean age for the adolescent sample was 15.7 years (SD=1.4) without significant differences between birth-assigned males and birth-assigned females.

Measures

Non-binary identity was measured using the Gender Diversity Questionnaire (GDQ) (Twist & de Graaf, 2018). One item from this questionnaire asked the adolescents how they identified on a *non-binary scale*, ranging from 'Not at all' at one end, to 'Completely' at the other end. The marks on a 10 centimetre scale were transformed into scores, ranging between zero (0) – which meant *not* identifying with a non-binary gender identity – to a hundred (100), which meant completely identifying with a non-binary identity.

Psychological functioning was measured using the Youth Self Report Scale (YSR) (Achenbach, 1991). The YSR consists of 112 items which are scored on

a three point scale (0 = not true; 1 = sometimes true; and 2 = very true). From these scores, three subscales scores can be calculated which were used in this study: a total problem score, an internalizing problem score and an externalizing problem score. Following previous studies, item 110 from the YSR, which is specifically related to cross-gender identity (*'wishes to be the other sex'*), was excluded from the calculation of scores to prevent potential bias (de Graaf, Cohen-Kettenis, et al., 2018; de Vries et al., 2016; Steensma et al., 2014; Zucker et al., 2012). Higher scores on the YSR scales reflect a greater degree of psychological difficulties.

Statistical Analyses

To examine the relationship between psychological functioning, non-binary identity and assigned gender at birth in the adolescent group, hierarchical multiple regression analyses were performed. The three YSR subscales (Total problem score, Internalising problem score and externalising problem score) were used as outcome variables. The non-binary scale (NB-scale) was entered in Step 1, assigned-gender at birth (AGAB) was entered in Step 2, and the Interaction variable assigned-gender at birth x non-binary scale (AGAB x NB-scale) was entered in Step 3. A significance level of 5% (p = .05) was used.

RESULTS

First it was established that the non-binary scale was equally distributed between adolescent birth-assigned males (M=16.8; SD=25.5) and birth-assigned females (M=18.1, SD=26.4), $t(560) = -0.506$, $p > 0.05$ indicating that there were no differences in the ways in which birth-assigned males and birth-assigned females identified across the non-binary gender spectrum.

The steps performed in the hierarchical multiple regression analyses for the adolescents are shown in Table 1. For the total problem score, the final model (step 3), which included the two predictors and the interaction variable, was the most suitable model to predict the reported psychological problems, $R^2 = .052$, $F(3, 579) = 10.497$, $p < .05$. It was found that the non-binary scale scores significantly predicted the total problem score, $\beta = .200$, $p < 0.05$, as did assigned-gender at birth (AGAB), $\beta = -.106$, $p < .05$, meaning that a stronger non-binary gender identity and a female-AGAB were associated with a higher total problem score. No significant association was found for the interaction variable (AGAB x NB-scale).

Table 1. *Multiple Regression Analysis on Psychological Functioning in Adolescents*

	Total Problems			Internalising Problems			Externlising Problems		
	B	**SE B**	***β***	**B**	**SE B**	***β***	**B**	**SE B**	***β***
Step 1									
NB-scale	.221	.049	.186 *	1.00	.02	.208 *	.022	.013	.070
R^2			.034			.043			.005
Step 2									
NB-scale	.217	.048	.182 *	.099	.019	.205 *	.022	.013	.069
AGAB	-9.16	2.91	-1.28 *	-3.89	1.17	-1.34 *	-0.79	0.80	-0.41
R^2			.051			.061			.007
Step 3									
NB-scale	.238	.055	.200 *	.093	.022	1.93 *	.037	.015	.117 *
AGAB	-7.56	3.51	-0.11 *	-4.30	1.42	-0.15 *	.341	.962	.018
AGAB x NB-scale	-0.09	.114	-0.04	.024	.046	.028	-0.65	.031	-0.12*
R^2			.052			.062			.014

*Psychological functioning was measured by three indices, Total Problems, Internalising Problems and Externlising Problems, which are subscales of the Youth Self Report. NB-scale stands for Non-binary scale, measured by the Gender Diversity Questionnaire, a continuous variable ranging from 0-100. AGAB stands for Assigned Gender At Birth, coded 1 = Assigned Male at Birth and 0 = Assigned Female at Birth. * indicates a p-value<0.05.*

For the internalising problem score, the final model including two predictors and the interaction variable best explained the reported internalising problems, R^2 = .062, $F(3, 578)$ = 12.610, p < .05. The non-binary scores significantly predicted the internalizing problem score, β = .193, p < .05, as did assigned-gender at birth, β = -.148, p < .05. This means that both a stronger non-binary identity and a female-AGAB were associated with a higher internalizing problem score. No significant association was found for the interaction variable (AGAB x NB-scale).

For the externalising problem score, non-binary identity scores, β = .117, p <.05, and the interaction variable (AGAB x NB-scale), β = -.148, p < .05, significantly predicted the reported externalising problems, R^2 = .014, F(3, 578) = 2.749, p < .05. A stronger non-binary identity, and the interaction of a stronger non-binary identity particularly in those assigned female at birth, explained an increase in externalising problems.

Overall, these results showed that, for adolescents, the stronger the non-binary gender identity, the more psychological problems were reported, especially by those assigned female at birth.

STUDY 2: PSYCHOLOGICAL FUNCTIONING AND NON-BINARY GENDER IDENTITY IN ADULTS

METHODS

Participants and Procedure

Information on psychological functioning and non-binary identity were collected from gender diverse adults (age range 17 to 67 years) who visited the Center of Expertise on Gender Dysphoria at the Amsterdam UMC, the Netherlands, between 2013 and 2016. Prior to their first appointment, all adults were informed that the questionnaires, which would be gathered as part of their clinical assessment, could also be used for research purposes for which consent was signed. The questionnaires were administered at baseline, at the start of the assessment phase. At this stage, none of the participants had started any physical treatment at the gender identity service. Ethical approval for administering the questionnaires was obtained from the local ethics committee.

All adults who completed both questionnaires were included in this study. In total, data for 632 adults were available, of which 278 (44%) participants were assigned female at birth and 354 (56%) participants were assigned male at birth. The mean age in years was 28.6 (SD=11.8). Birth-assigned males in this sample were found to be significantly older (mean age=31.2, SD=12.7) compared to the birth-assigned females (mean age=25.4, SD=9.7), $F(1, 630) = 42.192$, $p < .01$).

Measures

Non-binary identity was assessed using the Genderqueer Identity Scale (GQI), a validated questionnaire to assess genderqueer identity in adults (McGuire, Beek, Catalpa, & Steensma, 2018). The GQI consists of 23 items which form a total score with a range between zero (0) and ninety-two (92). Higher scores on the GQI indicate a gender identity on the more non-binary end of the spectrum (McGuire et al., 2018).

In the adult sample, the Symptom Checklist (SCL-90-R) was used to assess psychological functioning. The SCL-90-R is a multidimensional self-report questionnaire consisting of ninety items which can be scored on a five-point rating scale, ranging from 'not at all' (0) to 'extremely' (4). At the Amsterdam UMC, this questionnaire was used to assess psychological problems experienced in the past week. The SCL-90-R total score has a range between 0-360. A higher score reflects a greater degree of psychological difficulties (Smits, Timmerman, Barelds, & Meijer, 2014).

Statistical Analyses

To predict whether psychological functioning was significantly associated by non-binary identification and/or by birth-assigned gender, an hierarchical multiple regression analysis was performed. The SCL-90-R total score was used as the outcome variable for psychological functioning. Age was additionally added into the regression model, to control for the differences found between birth-assigned males and birth-assigned females within the study population. The genderqueer identity scale (GQI) and age were entered in Step 1, assigned-gender at birth (AGAB) was entered in Step 2, and the interaction variable assigned-gender at birth x non-binary scale (AGAB x GQI) was entered in Step 3. Results were considered statistically significant if $p < .05$.

RESULTS

First, a significant difference was found on the GQI between birth-assigned males (M=30.3, SD=11.2) and birth-assigned females (M=28.1, SD=11.4); $t(630) = 2.375$, p =.018. On average, birth-assigned males scored higher on the GQI compared to the birth-assigned females.

The results for the hierarchical multiple regression analysis are presented in Table 2. The first model, including the two predictors GQI and age, was found to be the best model to account for the reported psychological problems in the adult population, $R^2 = .135$, $F(2, 606) = 46.978$, $p < .05$. It was found that both non-binary identity, $\beta = .30$, $p < .05$, as well as age, $\beta = -0.186$, $p < .05$, significantly predicted psychological problems. No significant outcomes were found for assigned-gender at birth (AGAB) or the interaction AGAB x GQI. This shows that, the more the individual identifies with a non-binary gender identity, and the younger they are, the more psychological problems they experienced.

Table 2. *Hierarchical Multiple Regression Analyses on Psychological Functioning in Adults*

	SCL Psychological Problems			
	B	SE B	*β*	
Step 1				
GQI	.818	.103	.301	*
Age	-0.456	.093	-0.186	*
R^2			.135	
Step 2				
GQI	.807	.104	.297	*
Age	-0,475	.096	-0.194	*
AGAB	1.800	2,311	0,31	
R^2			.135	
Step 3				
GQI	.809	.157	.298	*
Age	-0.475	.096	-0.194	*
AGAB	1,883	6,399	0,32	
AGAB x GQI	-0.003	.209	-0.002	
R^2			.135	

*Psychological Total Problems were measured by the SCL-90-R, GQI scale stands for Genderqueer Inventory scale which measures non-binary identity on a scale of 0-92, AGAB stands for Assigned Gender At Birth, coded 1 = Assigned Male at Birth and 0 = Assigned Female at Birth. * indicates a p-value<0.05.*

DISCUSSION

The findings of our studies showed the same pattern in both gender diverse adolescents and adults presenting to gender identity services; the stronger the non-binary identification, the more psychological problems they reported. These results were in line with several studies which compared non-binary and binary transgender people from community samples, which showed that individuals who identified as non-binary experienced more mental health difficulties compared to those with a binary (cis-or trans-) gender identity (Budge et al., 2014; James et al., 2016; Thorne et al., 2018; Veale, Watson, Peter, & Saewyc, 2017). The higher levels of psychological problems experienced by non-binary identifying individuals may well be the result of extrinsic factors as well as intrinsic factors, or a combination of both. Individuals who do not conform to society's binary gender expectations are likely to experience difficulties with how they are being perceived by others,

which may be experienced as an additional burden that goes beyond the difficulties of binary transgender people (Jones & Mullany, 2019). As a result, non-binary adolescents and adults may be misgendered and addressed inappropriately more frequently than binary individuals. Repeated exposure to such intentional and unintentional behaviour by strangers as well as relatives or friends could be stressful for non-binary individuals and may accentuate the feeling that their gender identity is not socially recognized or validated (Fiani & Han, 2018; Monro, 2019; Nicholas, 2019). Subsequently, lack of acknowledgement or invisibility of one's gender identity may result in insecurity, low self-esteem or emotional problems (Nicholas, 2019). The issue of invisibility is also pertinent to policy making in healthcare or politics, where health monitoring systems as well as governmental bodies issuing passports continue to use gender binary categories (Monro, 2019).

Despite the growing number of non-binary individuals presenting at specialist gender identity services, there is a lack of resources and information available to non-binary individuals. Furthermore, people with a non-binary identity are rarely culturally represented compared to binary individuals (Fiani & Han, 2018; Monro, 2019; Nicholas, 2019; Thorne et al., 2018). This context also has implications for identity exploration for non-binary individuals, which, compared to binary individuals, tends to be delayed (Fiani & Han, 2018; Thorne et al., 2018). Thus, it is likely that non-binary individuals' poorer mental health can - at least partially - be explained by the lack of recognition and the absence of information, resources or non-binary role models (Fiani & Han, 2018; B. Jones, Bouman, Haycraft, & Arcelus, 2019; Nicholas, 2019).

Furthermore, the literature highlights that gender diverse individuals are often faced with societal challenges such as discrimination or stigmatization (Richards et al., 2016). Following the minority stress theory, mental health problems in minority populations are often a result of individuals being stigmatized (Hendricks & Testa, 2012). It is known that gender diverse people are often harassed, discriminated against and bullied because of their gender identity or expression (Grossman & D'Augelli, 2007; Holt et al., 2016). This may be particularly true for non-binary individuals, who experience more discomfort and social pressure to conform to traditional gender labelling compared to binary transgender individuals, who seem to be more at ease

with blending/passing in society (Fiani & Han, 2018). Additionally, non-binary people tend to avoid expressing their gender identity due to fear of negative reactions (Monro, 2019). One factor that non-binary people may struggle with in particular are linguistic challenges, not only in the social world, but also in the medical world, when presenting to gender identity services (Taylor, Zalewska, Gates, & Millon, 2019). Although gender identity services' key role is to allow gender diverse individuals to explore their gender identity and/or support them in accessing physical interventions, still many non-binary individuals struggle with the limitations of an inherently binary language to articulate their identities (Ellis, Bailey, & McNeil, 2015; Vincent, 2019). At the same time, it might also be challenging for the wider community to comprehend the possible fluctuating nature of a non-binary gender identity (Taylor et al., 2019). The notion that the relationship to the body can vary at different time points in relation to a dynamic gender identity also presents challenges in terms of accessing physical treatment. Non-binary individuals may wish to partially feminize or masculinize. These individual treatment wishes may be read as unconventional, which has often resulted in delayed access to physical treatment for non-binary individuals (Taylor et al., 2019; Vincent, 2019). Consequently, non-binary individuals may face even greater mental health risks due to stigmatization and discrimination.

Higher levels of psychological difficulties among non-binary adolescents and adults may also be attributed to intrinsic factors. First, struggling with or questioning one's gender identity, or having a gender identity that is not easily identifiable, can be stressful in itself. Fiani and Han (2018) reported that non-binary individuals tend to face more challenges related to the expression of their gender and have a later onset of exploration of gender identity compared to binary individuals. Together with the lack of protective factors, such as social support and peer relationships, non-binary individuals may be more prone to experience internalized stigma, which involves adapting one's self-concept to be congruent with the stigmatizing responses of society's conceptualization of gender (Austin, 2016; de Graaf, Cohen-Kettenis, et al., 2018; de Vries et al., 2016; Levitan, Barkmann, Richter-Appelt, Schulte-Markwort, & Becker-Hebly, 2019). Experiences of internalized stigma, such as trans-negativity and internalized transphobia, are associated with poorer coping skills and greater psychological distress (Austin & Goodman, 2017; Grossman & D'Augelli, 2007; Mizock & Mueser,

2014). Perhaps the same is true in case of internalized non-binary phobia.

While it seems likely that non-binary identifying adolescents and adults are dealing with similar issues, a few notable differences between the two studies could be identified. For adults, psychological problems were predicted by having a non-binary gender identity and having a younger age, whereas for adolescents psychological problems were predicted by having a non-binary identity and being assigned female at birth. First, the distribution in sex ratio of clinical referrals was far less pronounced in the adult sample compared to the adolescent sample, which could explain why birth-assigned gender was not a contributing factor for gender diverse adults. In adolescents, however, the vast majority (74%) of the study sample were assigned female at birth, which resembles the current sex ratio of referrals to GIDS (de Graaf, Giovanardi, Zitz, & Carmichael, 2018). Recent literature on gender diverse adolescents continue to report an increasing number of birth-assigned females presenting to gender identity services reporting more psychological difficulties compared to those assigned male at birth (de Graaf, Cohen-Kettenis, et al., 2018; de Graaf, Giovanardi, et al., 2018; de Vries et al., 2016; Kaltiala-Heino, Sumia, Työläjärvi, & Lindberg, 2015). Why more birth-assigned females tend to present to gender identity services in adolescence, and why they report more psychological difficulties than birth-assigned males, remains unclear. One hypothesis could be that birth-assigned females experience puberty at an earlier age, which could lead to an earlier onset of gender exploration compared to birth-assigned males. Hence, birth-assigned females may have a longer history of gender identity related issues, resulting in more psychological difficulties (Aitken et al., 2015). A similar pattern has also been found in the general UK adolescent population, where psychological wellbeing seems poorer amongst birth-assigned female adolescents compared to birth-assigned male adolescents (Gunnell, Kidger, & Elvidge, 2018).

Interestingly, in the adult population, higher percentages of birth-assigned males tend to report a gender diverse, non-binary or gender ambivalent identity (Kuyper & Wijsen, 2014; Van Caenegem et al., 2015). Nevertheless, the extent of the experienced psychological difficulties were similar for both gender diverse assigned males and assigned females. One explanation for this could be that it might be harder for adult birth-assigned males to

completely live in the female role (van de Grift et al., 2016). Additionally, having a younger age was found to be a predictor for experiencing more psychological difficulties. From the available evidence on this topic, we could argue that younger adults may be more prone to fluctuation of or uncertainty about their gender identity, whereas for older adults, their gender identity may be more crystallized (Taylor et al., 2019). Another hypothesis could be that it may be an artefact of their stage in life. In this case, it could be suggested that searching for peer acceptance could be more important for younger adults than for older adults.

The developmental pathways of both birth-assigned genders clearly require further attention. Longitudinal studies are of great importance to investigate similarities and differences between the groups, in childhood, adolescence and adulthood.

Strengths and Limitations

To the best of our knowledge, the present study is the first study to analyse gender identity as a continuum, rather than as dichotomies. Given the fluid nature of gender constructs, it is important that research continually evolves its methods and analyses to acknowledge the nuances in transgender and gender diverse identities, experiences, and expressions. We believe that our studies contribute to inclusion of gender diverse individuals by stepping away from binary gender assumptions, labelling or categorization.

Another strength of this study is that it includes two study populations, treatment-seeking adolescents from the age of 12 years, as well as treatment-seeking adults. Research on these populations were still lacking from existing literature. Additionally, the numbers of participants in both samples, adolescent (n=589) and the adult (n=632), were very high, making the results fairly robust.

However, some limitations warrant comment. In the adolescent sample, non-binary identity was measured by the use of one item, the non-binary scale. As gender identity consists of various components, people may have responded to different aspects of the concept (Egan & Perry, 2001). Furthermore, it should be taken into account that not all gender diverse individuals seek professional help from specialist gender identity servcies.

Some individuals may use self-medication or seek treatment abroad, others do not need any professional assistance to live or express themselves in their experienced gender identity. Therefore, the participants included in both studies might not reflect the full range of gender diverse individuals. It is possible that especially those individuals at the more non-binary end of the gender spectrum who do not seek any (medical) support from specialist gender services are underrepresented in this study. The findings in our study should therefore not be generalized to gender diverse individuals who are not in contact with clinical gender identity services.

The study might have been further limited by the fact that no direct comparisons between adults and adolescents could be made. Different psychometric measures were necessary to analyse psychological functioning and non-binary identity in both populations. Also, the study populations came from different countries, reflecting different cultural societies, which could have an impact on the assumptions that can be drawn from this data.

Finally, other potentially relevant information or demographic variables that could add towards explaining our findings were not taken into account at this instance. It is advised that future research includes factors such as family support, peer relations, place of residency, family connectedness or broader cultural and sociological factors, which might contribute to more insight in the relationship between gender diversity and psychological functioning (de Vries et al., 2016; Levitan et al., 2019).

Conclusion and Recommendations

Clinicians should be aware that applicants for gender-affirming treatment might have a broader range of gender identities than a transgender one. A non-binary gender identity may be more difficult to live with than a transgender or cisgender identity, resulting in more psychological difficulties. Therefore, it is recommended that counselling of gender diverse individuals should focus on providing support in coping with extrinsic societal or cultural challenges that may be more prominent to non-binary identifying people, as well as dealing with internalised challenges that may be different for non-binary identifying persons, compared to transgender or cisgender identifying individuals. Further research among gender diverse adolescents

and adults is needed to gain a better understanding of the development of the whole spectrum of gender identities. Such studies might profit from including factors that may improve psychological wellbeing, especially for those individuals with a non-binary identity.

REFERENCES

Achenback, T. M. (1991). *Manual for the Youth Self-Report and 1991 profile*. Burlington, VT: University of Vermont.

Aitken, M., Steensma, T. D., Blanchard, R., VanderLaan, D. P., Wood, H., Fuentes, A., . . . Fitzsimmons, C. L. (2015). Evidence for an altered sex ratio in clinicreferred adolescents with gender dysphoria. *The Journal of Sexual Medicine, 12*(3), 756-763.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (DSM-5®)*. Washington, DC: Author.

Austin, A. (2016). "There I am": A grounded theory study of young adults navigating a transgender or gender nonconforming identity within a context of oppression and invisibility. *Sex Roles, 75*(5-6), 215-230.

Austin, A., & Goodman, R. (2017). The impact of social connectedness and internalized transphobic stigma on self-esteem among transgender and gender non-conforming adults. *Journal of Homosexuality, 64*(6), 825-841.

Barker, M., & Richards, C. (2015). Further genders. *The palgrave handbook of the psychology of sexuality and gender* (pp. 166-182). Basingstoke, UK : Palgrave Macmilan.

Bockting, W. O., Miner, M. H., Romine, R. E. S., Hamilton, A., & Coleman, E. (2013). Stigma, mental health, and resilience in an online sample of the US transgender population. *American Journal of Public Health, 103*(5), 943-951.

Budge, S. L., Rossman, H. K., & Howard, K. A. (2014). Coping and psychological distress among genderqueer individuals: The moderating effect of social support. *Journal of LGBT Issues in Counseling, 8*(1), 95-117.

Claes, L., Bouman, W. P., Witcomb, G., Thurston, M., FernandezAranda, F., & Arcelus, J. (2015). Nonsuicidal self injury in trans people: associations with psychological symptoms, victimization, interpersonal functioning, and perceived social support. *The Journal of Sexual Medicine, 12*(1), 168-179.

de Graaf, N. M., & Carmichael, P. (2019). Reflections on emerging trends in clinical work with gender diverse children and adolescents. *Clinical Child Psychology and Psychiatry, 24*(2), 353-364.

de Graaf, N. M., Cohen-Kettenis, P. T., Carmichael, P., de Vries, A. L., Dhondt, K., Laridaen, J., . . . Steensma, T. D. (2018). Psychological functioning in adolescents referred to specialist

gender identity clinics across Europe: A clinical comparison study between four clinics. *European Child & Adolescent Psychiatry, 27*(7), 909-919.

de Graaf, N. M., Giovanardi, G., Zitz, C., & Carmichael, P. (2018). Sex ratio in children and adolescents referred to the gender identity development service in the UK (2009–2016). *Archives of Sexual Behavior, 47*(5), 1301-1304.

de Vries, A. L., Doreleijers, T. A., Steensma, T. D., & CohenKettenis, P. T. (2011). Psychiatric comorbidity in gender dysphoric adolescents. *Journal of Child Psychology and Psychiatry, 52*(11), 1195-1202.

de Vries, A. L., Steensma, T. D., Cohen-Kettenis, P. T., VanderLaan, D. P., & Zucker, K. J. (2016). Poor peer relations predict parent-and self-reported behavioral and emotional problems of adolescents with gender dysphoria: A cross-national, cross-clinic comparative analysis. *European Child & Adolescent Psychiatry, 25*(6), 579-588.

Dhejne, C., Van Vlerken, R., Heylens, G., & Arcelus, J. (2016). Mental health and gender dysphoria: A review of the literature. *International Review of Psychiatry, 28*(1), 44-57.

Egan, S. K., & Perry, D. G. (2001). Gender identity: A multidimensional analysis with implications for psychosocial adjustment. *Developmental Psychology, 37*(4), 451.

Ellis, S. J., Bailey, L., & McNeil, J. (2015). Trans people's experiences of mental health and gender identity services: A UK study. *Journal of Gay & Lesbian Mental Health, 19*(1), 4-20.

Fiani, C. N., & Han, H. J. (2018). Navigating identity: Experiences of binary and non-binary transgender and gender non-conforming (TGNC) adults. *International Journal of Transgenderism*, 20(2-3), 181-194.

Grossman, A. H., & D'Augelli, A. R. (2007). Transgender youth and lifethreatening behaviors. *Suicide and LifeThreatening Behavior, 37*(5), 527-537.

Gunnell, D., Kidger, J., & Elvidge, H. (2018). Adolescent mental health in crisis. *BMJ,* 361, [k2608].

Hendricks, M. L., & Testa, R. J. (2012). A conceptual framework for clinical work with transgender and gender non-conforming clients: An adaptation of the minority stress model. *Professional Psychology: Research and Practice, 43*(5), 460.

Heylens, G., Elaut, E., Kreukels, B. P., Paap, M. C., Cerwenka, S., Richter-Appelt, H., . . . De Cuypere, G. (2014). Psychiatric characteristics in transsexual individuals: Multicentre study in four European countries. *The British Journal of Psychiatry, 204*(2), 151-156.

Holt, V., Skagerberg, E., & Dunsford, M. (2016). Young people with features of gender dysphoria: Demographics and associated difficulties. *Clinical Child Psychology and Psychiatry, 21*(1), 108-118.

James, S., Herman, J., Rankin, S., Keisling, M., Mottet, L., & Anafi, M. A. (2016). *The report of the 2015 US transgender survey*. Washington, DC: National Center for Transgender Equality.

Jones, B. A., Pierre Bouman, W., Haycraft, E., & Arcelus, J. (2019). Mental health and quality of life in non-binary transgender adults: A case control study. *International Journal of Transgenderism*, 1-12.

Jones, L., & Mullany, L. (2019). The problematic case of gender-neutral pronouns: A response to "A modest proposal". *International Journal of Transgenderism, 20*(2-3), 337-340.

Kaltiala-Heino, R., Sumia, M., Työläjärvi, M., & Lindberg, N. (2015). Two years of gender identity service for minors: Overrepresentation of natal girls with severe problems in adolescent development. *Child and Adolescent Psychiatry and Mental Health, 9*(1), 9.

Kuyper, L., & Wijsen, C. (2014). Gender identities and gender dysphoria in the Netherlands. *Archives of Sexual Behavior, 43*(2), 377-385.

Levitan, N., Barkmann, C., Richter-Appelt, H., Schulte-Markwort, M., & Becker-Hebly, I. (2019). Risk factors for psychological functioning in German adolescents with gender dysphoria: Poor peer relations and general family functioning. *European Child & Adolescent Psychiatry*, 1-12.

McGuire, J. K., Beek, T. F., Catalpa, J. M., & Steensma, T. D. (2018). The genderqueer identity (GQI) scale: Measurement and validation of four distinct subscales with trans and LGBQ clinical and community samples in two countries. *International Journal of Transgenderism*, 1-16.

Mizock, L., & Lewis, T. K. (2008). Trauma in transgender populations: Risk, resilience, and clinical care. *Journal of Emotional Abuse, 8*(3), 335-354.

Mizock, L., & Mueser, K. T. (2014). Employment, mental health, internalized stigma, and coping with transphobia among transgender individuals. *Psychology of Sexual Orientation and Gender Diversity, 1*(2), 146.

Monro, S. (2019). Non-binary and genderqueer: An overview of the field. *International Journal of Transgenderism, 20*(2-3), 126-131.

Moradi, B., Tebbe, E. A., Brewster, M. E., Budge, S. L., Lenzen, A., Ege, E., . . . Mender, E. (2016). A content analysis of literature on trans people and issues: 2002–2012. *The Counseling Psychologist, 44*(7), 960-995.

Nicholas, L. (2018). Queer ethics and fostering positive mindsets toward non-binary gender, genderqueer, and gender ambiguity. *International Journal of Transgenderism*, 1-12.

Rankin, S., & Beemyn, G. (2012). Beyond a binary: The lives of gender nonconforming youth. *About Campus, 17*(4), 2-10.

Richards, C., Bouman, W. P., & Barker,

M. J. (2017). *Genderqueer and non-binary genders*. New York, NY: Springer.

Richards, C., Bouman, W. P., Seal, L., Barker, M. J., Nieder, T. O., & T'Sjoen, G. (2016). Non-binary or genderqueer genders. *International Review of Psychiatry, 28*(1), 95-102.

Rimes, K. A., Goodship, N., Ussher, G., Baker, D., & West, E. (2017). Non-binary and binary transgender youth: Comparison of mental health, self-harm, suicidality, substance use and victimization experiences. *International Journal of Transgenderism*, 1-11.

Smits, I. A., Timmerman, M. E., Barelds, D. P., & Meijer, R. R. (2014). The Dutch symptom checklist-90-revised. *European Journal of Psychological Assessment*, 31(4), 263-271.

Steensma, T. D., Zucker, K. J., Kreukels, B. P., VanderLaan, D. P., Wood, H., Fuentes, A., & Cohen-Kettenis, P. T. (2014). Behavioral and emotional problems on the teacher's report form: A cross-national, cross-clinic comparative analysis of gender dysphoric children and adolescents. *Journal of Abnormal Child Psychology, 42*(4), 635-647.

Taylor, J., Zalewska, A., Gates, J. J., & Millon, G. (2019). An exploration of the lived experiences of non-binary individuals who have presented at a gender identity clinic in the United Kingdom. *International Journal of Transgenderism, 20*(2-3), 195-204.

Thorne, N., Witcomb, G. L., Nieder, T., Nixon, E., Yip, A., & Arcelus, J. (2018). A comparison of mental health symptomatology and levels of social support in young treatment seeking transgender individuals who identify as binary and non-binary. *International Journal of Transgenderism*, 1-10.

Twist, J., & de Graaf, N. (2018). Gender diversity and non-binary presentations in young people attending the UK national gender identity development service. *Clinical Child Psychology and Psychiatry, 24*(2), 277-290.

Van Caenegem, E., Wierckx, K., Elaut, E., Buysse, A., Dewaele, A., Van Nieuwerburgh, F., . . . T'Sjoen, G. (2015). Prevalence of gender nonconformity in Flanders, Belgium. *Archives of Sexual Behavior, 44*(5), 1281-1287.

van de Grift, T. C., Cohen-Kettenis, P. T., Steensma, T. D., De Cuypere, G., Richter-Appelt, H., Haraldsen, I. R., . . . Kreukels, B. P. (2016). Body satisfaction and physical appearance in gender dysphoria. *Archives of Sexual Behavior, 45*(3), 575-585.

Veale, J. F., Watson, R. J., Peter, T., & Saewyc, E. M. (2017). Mental health disparities among Canadian transgender youth. *Journal of Adolescent Health, 60*(1), 44-49.

Vincent, B. (2019). Breaking down barriers and binaries in trans healthcare: The validation of non-binary people. *International Journal of Transgenderism, 20*(2-3), 132-137.

Zucker, K. J., Bradley, S. J., Owen-Anderson, A., Kibblewhite, S. J., Wood, H., Singh, D., & Choi, K. (2012). Demographics, behavior problems, and psychosexual characteristics of adolescents with gender identity disorder or transvestic fetishism. *Journal of Sex & Marital Therapy, 38*(2), 151-189.